

REMARKS

The office action of June 2, 2003 has been reviewed and its contents carefully noted. Reconsideration of this case, as amended, is requested. Claims 1 through 39 remain in this case.

This office action response accompanies a petition to revive this application, which was unintentionally abandoned.

Preliminary Comments

The numbered paragraphs below correspond to the numbered paragraphs in the Office Action.

Rejection under 35 U.S.C. §102

3. Claims 1-6, 8, 10, 12, 14, 15, 20, 21, 23, 26-31, and 36-39 were rejected under 35 U.S.C.

102(b) as being anticipated by Cheo (U.S. Patent No. 3,924,931). Applicant respectfully disagrees with the rejection.

"Unless all of the same elements are found in exactly the same situation and united in the same way to perform the identical function in prior pleaded art, there is no anticipation." *Stauffer v. Slenderella Systems of California, Inc.*, 254 F.2d 127, 115 USPQ 347 (9th Cir. 1957).

Claim 1 reads "a fiber for use in an electronic display, wherein said fiber comprises: a) at least one electrode; and b) a lens function designed into at least a part of said fiber." The Examiner asserts that Cheo discloses "a fiber for use in an electronic display comprising at least one electrode (32)" (present office action dated June 2, 2003, page 2, fifth paragraph) in Figs 6 and 7. However, the description of Figs 6 and 7 do not talk about a fiber at all. "FIGS. 6 and 7 show a switching terminal configuration similar to that of Fig. 4 in that a plurality of rectangular electrodes 32 are fabricated on a thin film 34, the film being in turn fabricated on a conductive substrate 36." (col. 4, lines 50-55). The Examiner states that reference numeral 34 is a fiber. However, it is clear from the cited passage that reference numeral 34 represents a thin film.

Despite the Examiner's assertions, Cheo does not teach a fiber with a lens function built into it, nor does the patent contain any electrode. Instead, the Cheo patent explains the method

of making a thin film electrooptic switch for the telecommunication industry. Those skilled in the art now refer to this type of a switch as a wavelength division multiplexer (WDM). The only place in the Cheo patent that uses fibers is to bring the light signals into fiber optic transmission lines 38 and out of fiber optic transmission lines 46. (col. 4, lines 50-61). The waveguides in the WDM are etched into thin films and the lens 42 is used to split the different wavelengths into separate optical switches 32. The second lens 44 is used to recombine the non-selected wavelengths into the output fibers. The method described in the Cheo patent is totally unrelated to adding a lens function in a fiber or on the surface of a fiber. Therefore, the Cheo patent does not anticipate the fiber in claim 1. Reconsideration and withdrawal of the rejection of claim 1 is respectfully requested.

Dependent claims 2-6, 8, 10, 12, 14, and 15, being dependent upon and further limiting independent claim 1, should also be allowable for that reason, as well as for the additional recitations they contain. Applicant respectfully requests reconsideration of the rejection of claims 2-6, 8, 10, 12, 14, and 15, in view of the above amendments and remarks.

Claim 20 reads "a fiber for use in an electronic display, wherein said fiber comprises: a) at least one electrode; and b) an aperture in said fiber such that said aperture is formed by at least one optically absorbing or reflecting region."

The Cheo patent does not teach a fiber with an electrode and an aperture in the fiber formed by at least one optically absorbing or reflecting region. As discussed above, the Cheo patent explains the method of making a thin film electrooptic switch for the telecommunication industry. The only place in the Cheo patent that uses fibers is to bring the light signals into fiber optic transmission lines 38 and out of fiber optic transmission lines 46. (col. 4, lines 50-61). The waveguides in the WDM are etched into thin films and the lens 42 is used to split the different wavelengths into separate optical switches 32. The second lens 44 is used to recombine the non-selected wavelengths into the output fibers. The method described in the Cheo patent is totally unrelated to a fiber including an aperture in the fiber. Therefore, the Cheo patent does not anticipate the fiber in claim 20. Reconsideration and withdrawal of the rejection of claim 20 is respectfully requested.

Dependent claims 21 and 23, being dependent upon and further limiting independent claim 20, should also be allowable for that reason, as well as for the additional recitations they contain. Applicant respectfully requests reconsideration of the rejection of claims 21 and 23, in view of the above amendments and remarks.

Claim 26 reads “a fiber for use in an electronic display, wherein said fiber comprises: a) at least one wire electrode; and b) at least two transparent materials such that each of said transparent materials have a different index of refraction.”

As discussed above, the Cheo patent explains the method of making a thin film electrooptic switch for the telecommunication industry. The only place in the Cheo patent that uses fibers is to bring the light signals into fiber optic transmission lines 38 and out of fiber optic transmission lines 46. (col. 4, lines 50-61). The waveguides in the WDM are etched into thin films and the lens 42 is used to split the different wavelengths into separate optical switches 32. The second lens 44 is used to recombine the non-selected wavelengths into the output fibers.

Although Cheo does use two different transparent materials with a different index of refraction, that by definition is how you create a waveguide in a plate or in a fiber. As an example, the change in index of refraction between the core where the light travels and the cladding is what keeps the light in the waveguide. The mere fact that Cheo discusses different transparent materials with different indices of refraction, without any mention of fibers as they relate to the present invention, does not anticipate the invention as claimed in claim 26. Transparent materials with different indices of refraction are found in many applications. That is not enough to create an anticipation rejection of this claim. Clearly, Cheo does not anticipate claim 26. Reconsideration and withdrawal of the rejection of claim 26 is respectfully requested.

Dependent claims 27-31, being dependent upon and further limiting independent claim 26, should also be allowable for that reason, as well as for the additional recitations they contain. Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 27-31, in view of the above amendments and remarks.

Claim 36 reads “a method of creating a fiber for use in an electronic display comprising the steps of : a) forming a preform including at least two distinct materials to be used in said

fiber; and b) drawing said preform to form said fiber.” As discussed above, the Cheo patent explains the method of making a thin film electrooptic switch for the telecommunication industry. Cheo does not disclose a method of making a fiber. The only place in the Cheo patent that uses fibers is to bring the light signals into fiber optic transmission lines 38 and out of fiber optic transmission lines 46. (col. 4, lines 50-61). The waveguides in the WDM are etched into thin films and the lens 42 is used to split the different wavelengths into separate optical switches 32. The second lens 44 is used to recombine the non-selected wavelengths into the output fibers.

The Examiner stated in her first office action that Cheo discloses all the limitations of claim 36 “except for the steps of forming and drawing the preform to form the fiber by coextruding the distinct materials into a preform.” (first office action dated December 4, 2002, page 5, lines 10-12). The Examiner makes an unsupported statement in the present office action, stating that Cheo discloses “forming a preform including two distinct materials to form the fiber” (present office action dated June 2, 2003, page 2, paragraph five) But, she does not point to anything in the patent to support this statement. In addition, she does not make any statements regarding drawing the preform to form the fiber.

Forming the preform is step a) of claim 36 and drawing the preform is step b). Therefore, as admitted by the Examiner in the earlier office action, none of the steps of claim 36 are disclosed by Cheo. In fact, Cheo does not disclose any methods of forming a fiber. The only place in the Cheo patent that uses fibers is to bring the light signals into fiber optic transmission lines 38 and out of fiber optic transmission lines 46. (col. 4, lines 50-61). Reconsideration and withdrawal of the rejection of claim 36 is respectfully requested.

Dependent claim 37, being dependent upon and further limiting independent claim 36, should also be allowable for that reason, as well as for the additional recitations it contains. Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 37, in view of the above amendments and remarks.

Claim 38 reads “a method of creating a three-dimensional image in a display having multiple electrodes and lens curvatures at each pixel that define an appearance of depth of said image at each pixel, comprising: a) subdividing a voltage that creates said appearance of depth in at least one pixel location between more than one of said electrodes in said at least one pixel

location such that said appearance of depth is perceived by a viewer to be between either appearance of depth created by applying said voltage to any one of said electrodes individually.”

The Examiner points to Figs. 4-7 to support the anticipation rejection. The description of those Figures is found in col. 4, line 32 – col. 5, line 5.

Figs. 4 and 5 show configuration of the thin film electrooptic wave guide which contain arrays of electrodes rather than a single electrode, and which are adapted for integrated optical circuits. The coupling of the beam from a laser or a light emitting diode into the devices is illustrated schematically since the particular coupling technique..., will depend on factors such as beam wavelength, film thickness, etc. Coupling of the output may be performed by similar techniques.

In Fig. 4 a plurality of rectangular electrodes 30 are fabricated on thin film 10 with a programmable voltage wave form applied to each electrode. The Fig. 5 embodiment differs from that of Fig. 4 only in that the electrodes 30' are triangular or wedge shaped. Voltages V1, V2... Vn are applied to the electrodes as shown in the Figures....

Figs. 6 and 7 show a switching terminal configuration similar to that of Fig. 4 in that a plurality of rectangular electrodes 32 are fabricated on a thin film 34, the film being in turn fabricated on a conducting substrate 36. A plurality of fiber optic transmission lines 38 transmit input light signals from sources (not shown) through fiber couplers 40 and an embedded lens 42 into the thin film wave guide 34. After passing through the wave guide and a second embedded lens 44, the optical waves are coupled to one or more of a plurality of output fiber transmission lines 46 through fiber couplers 48. The light input from fiber couplers 40 spreads out by means of either beam expanding elements such as the lenses in the thin film or by diffraction when it reaches the thin film or by diffraction when it reaches the thin film medium 34 as is shown by dotted lines 50. The lens element 42 is needed to collimate the diffracted light so that the transmitted light passes through the thin film in a direction parallel to the electrodes 32. By applying the desired voltage wave form to electrodes 32, the incident light consisting of one or more input beams may be switched to any one or more of the output fiber optic transmission lines 46. Optical detectors may be used at the output in place of fiber optics. (col. 4, line 32- col. 5, line 5).

The description of these Figures in the Cheo patent does not discuss anything about creating a three-dimensional image in a display. Nor do these figures discuss subdividing a voltage that creates the appearance of depth in one pixel location. As discussed above, the Cheo patent explains the method of making a thin film electrooptic switch for the telecommunication industry. The only place in the Cheo patent that uses fibers is to bring the light signals into fiber

optic transmission lines 38 and out of fiber optic transmission lines 46. (col. 4, lines 50-61). The waveguides in the WDM are etched into thin films and the lens 42 is used to split the different wavelengths into separate optical switches 32. The second lens 44 is used to recombine the non-selected wavelengths into the output fibers. The technology disclosed in Cheo has nothing to do with displays or creating an image. Therefore, claim 38 is not anticipated by Cheo. Reconsideration and withdrawal of the rejection of claim 38 is respectfully requested.

Dependent claim 39, being dependent upon and further limiting independent claim 38, should also be allowable for that reason, as well as for the additional recitations they contain. Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 39, in view of the above amendments and remarks.

Rejection(s) under 35 U.S.C. §103

5. Claim 7 was rejected under 35 U.S.C. 103(a) as being unpatentable over Cheo. Applicant respectfully disagrees. The argument above regarding the anticipation of claim 1 is hereby incorporated with respect to this rejection.

The basic considerations which apply to obviousness rejections under MPEP Section 2141 are:

- (1) the claimed invention must be considered as a whole;
- (2) the references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (3) the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and
- (4) reasonable expectation of success is the standard by which obviousness is determined

Regarding claim 1, upon which claim 7 depends, Cheo does not teach or suggest all of the limitations of the claim. More specifically, as discussed above, the Examiner asserts that Cheo discloses "a fiber for use in an electronic display comprising at least one electrode (32)" (present office action dated June 2, 2003, page 2, fifth paragraph) in Figs 6 and 7. However, the

description of Figs 6 and 7 do not talk about a fiber at all. "FIGS. 6 and 7 show a switching terminal configuration similar to that of Fig. 4 in that a plurality of rectangular electrodes 32 are fabricated on a thin film 34, the film being in turn fabricated on a conductive substrate 36." (col. 4, lines 50-55). The Examiner states that reference numeral 34 is a fiber. However, it is clear from the cited passage that reference numeral 34 represents a thin film. Therefore, claim 1 is not obvious over Cheo.

Dependent claim 7, being dependent upon and further limiting independent claim 1, should also be allowable for that reason, as well as for the additional recitations it contains. Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 7, in view of the above amendments and remarks.

Allowable Subject Matter

6. Claims 9, 11, 13, 16-19, 22, 24, 25, and 32-35 were objected to as being dependent upon a rejected base claim, but the Examiner indicated that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

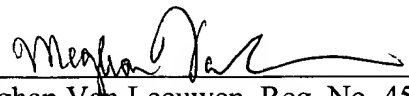
Independent claims 1, 20, and 26, upon which dependent claims 9, 11, 13, 16-19, 22, 24, 25, and 32-35 depend, should now be allowable, based on the arguments above. Therefore, reconsideration and withdrawal of the objection is respectfully requested.

Conclusion

Applicant believes the claims are patentable over the prior art, and that this case is now in condition for allowance of all claims therein. Such action is thus respectfully requested. If the Examiner disagrees, or believes for any other reason that direct contact with Applicants' attorney would advance the prosecution of the case to finality, she is invited to telephone the undersigned at the number given below.

"Recognizing that Internet communications are not secured, I hereby authorize the PTO to communicate with me concerning any subject matter of this application by electronic mail. I understand that a copy of these communications will be made of record in the application file."

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